

# PRODUCT FACTS

## Watchdog

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### Brief Description

PC systems that need to meet highest reliability and availability requirements (e.g. in industrial and mission-critical environments) can be designed using the “Watchdog” feature of Fujitsu Technology Solutions industrial mainboards (select versions only).

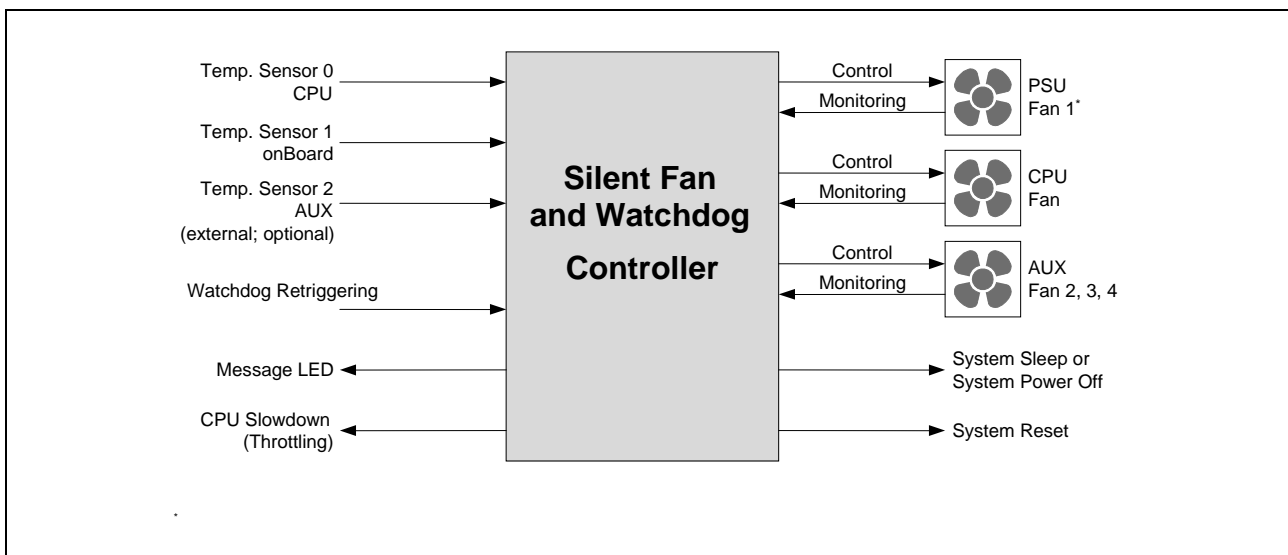
This functionality is coupled with the autonomous system controller on boards that are equipped with the Silent Fan function. The integrated microcontroller is fully independent on CPU and software; thus, it can serve as a reliable watchdog to monitor regular “Watchdog Reset” events which have to be performed by operating system tasks or by the SystemGuard utility. In case these retrigger events fail to arrive on time, a malfunction of hardware or software has to be assumed; then the system is restarted.



### Benefits

- Additional reliability for industrial and mission-critical PC systems
- The Watchdog monitor itself is independent on operating system and software; thus, it stays fully functional even in case of major hardware and software failures
- Easy setup of Watchdog functionality with SystemGuard utility
- Additional tuning and integration in customer programs through programming interface (Windows API)

### Watchdog in the Silent Fan Controller



## Functional Description

The Watchdog is a function known from the server area. When this function is activated, the Watchdog has to be retriggered within a selectable time interval (1 to 8 minutes). If this does not happen in time, the Silent Fan and Watchdog controller automatically initiates a system reset. This is particularly relevant in industrial and mission-critical environments as well as for print and file servers, as these should always be available but often are not easily user accessible.

The utility SystemGuard (provided by Fujitsu Technology Solutions under freeware terms and conditions) can be used to activate and set the Watchdog, and it also handles the reset procedure. As long as SystemGuard is working properly, no reset will be generated. In case that SystemGuard will be stuck or the operating system fails, no retriggering of the watchdog will occur. This also means that the Watchdog is no longer retriggered, if, for example, the system is overloaded and stuck. After the set time has elapsed, the Silent Fan controller restarts the system, and it will become available again.

If the user terminates SystemGuard, the WatchDog is also deactivated, as otherwise it would restart the system after the set time interval. After the system has been started up again, SystemGuard automatically detects that the WatchDog was responsible for the restart. It reports this to the user and makes a note in the event log. This option can be found in the "Special" menu of the SystemGuard utility.

**Figure SystemGuard Initialize Watchdog**



In certain customer specific environments it's not desirable or possible to use SystemGuard for setting up and servicing the Watchdog. In this case, these tasks can be integrated into customer specific software as well. For this type of integration, Fujitsu Technology Solutions provides an API (Windows-based) on special request.

## Additional information and downloads

- General Information:  
[www.ts.fujitsu.com/mainboards](http://www.ts.fujitsu.com/mainboards)
- Documentation and downloads:  
<ftp://ts.fujitsu.com/pub/Mainboard-OEM-Sales/>

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